

## CURRICULUM VITAE

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### PERSONAL INFORMATION

**Name:** Henrik Mattias Wahde  
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### EVENTS, EDUCATION, AND APPOINTMENTS, IN CHRONOLOGICAL ORDER

1969 Born in Mölndal, Sweden.  
1988 Began studies at the School of Engineering Physics at Chalmers University of Technology, Göteborg, Sweden  
1988, 1989, 1990 Worked as a summer student at Onsala Space Observatory, under the supervision of Dr. L. Bååth.  
1991 Graduated from the School of Engineering Physics, with highest grades in all subjects.  
1991 Began doctoral studies at the Institute of Theoretical Physics at Chalmers University of Technology.  
1992 Joined the Astrophysics group at the Institute for Theoretical Physics.  
1994 Obtained the degree of Licentiate of Engineering. The title of the thesis was "Dynamical friction in disc galaxies". Thesis advisor: Dr. Björn Sundelius.  
1995 Transferred, with my thesis advisor, to the Division of Mechanics at Chalmers University of Technology.  
1997, Jan. 13. Ph. D. thesis dissertation. The title of the thesis "Angular Momentum Transfer in Astrophysical Discs". Thesis advisor: Dr. Björn Sundelius, Faculty opponent: Dr. Konrad Kuijken.  
1997, Sept. – 1999, Sept. Postdoctoral studies at the Nordic Institute of Theoretical Physics (Nordita) in Copenhagen, Denmark.  
1999 Appointed assistant professor at the Division of Mechatronics at Chalmers University of Technology.  
1999, Sept. Began my work as assistant professor at the Division of Mechatronics.  
2001, Oct. 12 Awarded the title of "Docent". Explanation: "Qualification as Docent requires, in addition to a Ph.D., substantially greater documented independent ability to lead in formulating and solving scientific research problems, as well as pedagogical competence at the advanced graduate study level"  
2003 Appointed associate professor at the Division of Mechatronics, Department of Machine and Vehicle Systems, Chalmers University of Technology.  
2004 Appointed co-director of the Complex Adaptive Systems international master programme, at Chalmers University of Technology

2010 Appointed professor (Swedish: biträdande professor) at the Department of Applied Mechanics, Chalmers University of Technology.

### RESEARCH INTERESTS

My current research is centered on applications of artificial intelligence in autonomous systems, primarily vehicles, robots, and software agents. To a great extent, my research involves stochastic optimization methods, which are applicable in a wide variety of research problems. Currently, I am involved in four large cooperative projects with AB Volvo, namely SERET (longitudinal control of truck road trains), SARPA (development of algorithms for autonomous dumpers), and ANTWaY (development of various functionalities concerning autonomous vehicles at production sites and QUADRA (driver modelling, a project that will soon be completed). I also leading a project aimed at developing a software agent for helping blind people in everyday tasks.

### TEACHING

I have been teaching at Chalmers since 1991, with a brief gap during my postdoc (1997-1999). Since 2004, I teach several courses (currently Stochastic optimization algorithms and Autonomous agents) in the Complex Adaptive Systems master programme, at Chalmers University of Technology. In addition to teaching, I have also developed course material for several courses, including (but not limited to) the ones mentioned above. I have also written a book (published by WIT Press) with the title *Biologically inspired optimization methods: An introduction*, which I use in the Stochastic optimization algorithms course. Furthermore, I have supervised around 100 MSc Theses.

### RESEARCH GRANTS

Over the years, I have received numerous external research grants. Some recent examples (among many): (1) I have been involved in the writing of applications for all four of my current projects involving AB Volvo (see *research interests* above), which together have a total budget of around 3.5-4.0 MSEK per year: (2) I was the sole author for the grant application concerning the software agent, a project with a total budget of 500 kSEK.

### PHD STUDENT SUPERVISION

I am currently the (main) advisor for two PhD students, Gustav Markkula (started 2010) and Luca Caltagirone (started 2014). Seven PhD students, for which I was the main advisor (Peter Lingman, Jimmy Pettersson, Peter Forsberg, Krister Wolff, Andreas Magnusson, David Sandberg, and Ola Benderius), have obtained their PhD degrees, namely Peter Lingman (2006), Jimmy Pettersson (2006), Peter Forsberg (2006), Krister Wolff (2006), Andreas Magnusson (2008), David Sandberg (2011), and Ola Benderius (2014).

### INVITED TALKS

I have been an invited speaker at several conferences, as listed below:

2000 Invited to speak at the *Nordic Symposium on Computational Biology* in Sigtuna, Sweden.

2000 Invited to speak at the *First International Conference on Systems Biology*, Tokyo, Japan.

2001 Invited to speak at the *2<sup>nd</sup> Workshop on Computation of Biochemical Pathways and Genetic Networks*, Heidelberg, Germany

2002 Invited to speak at *Integrated Bioinformatics: High-Throughput Interpretation of Pathways and Biology*, in Zürich, Switzerland

2003 Invited to speak at the *First International Swedish Workshop on Cellular Networks*, in Norrköping, Sweden

- 2007 Invited speaker at *SAIS2007*, Borås, Sweden  
2007 Invited speaker at *the Seminar on Intelligent Autonomous Robots (SIAR2007)*,  
Hsinchu, Taiwan  
2012 Plenary speaker at INTELLI2012, Chamonix, France

I have been a member of several program committees for international conferences. I have also been chairman of several sessions at various conferences (not listed).

#### AWARDS

- 1992 Awarded the John Ericsson medal for "Outstanding scholarship for the degree of Master of science in Engineering".  
1997, Feb. Awarded a Postdoctoral Fellowship at the Nordic Institute of Theoretical Physics (Nordita) in Copenhagen, Denmark.  
2001, Nov. 30 Awarded the "Pedagogical stipend of Chalmers University of Technology";  
2001, Nov. 30 Awarded the "Pedagogical prize of the School of Automation"; see  
2002 Shortlisted (together with my student Peter Lingman) for the best paper award at the AVEC02 conference in Hiroshima, Japan.